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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/565,553 | 01/23/2006 | Mitsuhiro Kaneta | Q92827 | 2076 |

65565 7590 02/18/2009

SUGHRUE-265550
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| EXAMINER | |
|---|---|
| BERNSHTEYN, MICHAEL | |
| ART UNIT | PAPER NUMBER |
| 1796 | |
| MAIL DATE | DELIVERY MODE |
| 02/18/2009 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/565,553 | KANETA, MITSUHIRO | |
| | Examiner | Art Unit | |
| | MICHAEL M. BERNSHTEYN | 1796 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-3* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/23/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Catena (U. S. Patent 5,256,450) in view of Reich (U. S. Patent 5,350,783).

With regard to the limitations of claims 1 and 2, Catena discloses a process for impregnating and sealing porous articles which comprises: A) impregnating the article with a water miscible heat resistant, shrinkage resistant, **anaerobic polymerizable acrylate composition** comprising: 1) from about 75 to 90% by weight of a mixture of acrylate or methacrylate monomers, the mixture containing: a) from about 25 to 50% by weight of the monomers of formula **(I)** where n is from about 7 to 11 and b) from about 50 to 75% by weight of the monomer of formula **(I)** where n is from about 1 to 4; 2) from about 10 to 25% by weight of an hydroxy-terminated acrylate or methacrylate, and 3) an

effective amount of a free radical initiator to initiate cure of the monomers upon exclusion of oxygen; B) washing the surface of the article with water to remove any excess impregnant; and C) permitting the anaerobic sealant to cure (col. 2, lin 40 through col. 3, line 14).

The most common initiator systems are those involving peroxy materials which, under the appropriate conditions, decompose to form peroxy free radicals. A class of peroxy initiators which has been found readily adaptable to the anaerobic concept, and particularly efficient when used in combination with the acrylate and methacrylate monomers described above, is the hydroperoxy initiators. Of this class, the **organic hydroperoxides** are the most preferred. The amount of initiator will vary up to 10 percent by weight of the composition, preferably from 0.5 to 5 percent by weight of the composition, which is within the claimed range (col. 4, lines 41-66).

To provide attractive features and versatility to the system, it is sometimes desirable to incorporate additives in the composition. Typical materials include accelerators such as organic cyclic sulfimides, e.g., **benzoic sulfimide** (saccharin) and tertiary amines, and chelating agents such as **tetrasodium ethyenediaminetetraacetate** (col. 4, line 67 through col. 5, line 5).

Catena exemplifies that the amount of tetrasodium ethyenediaminetetraacetate is 0.5%, and the amount of saccharin (ortho-benzoic acid sulfimide is also 0.5%, which are clearly within the claimed ranges (Example 1, col. 6, lines 15-20).

With regard to the limitations of claim 1 and 3, Catena does not disclose a complex of a metal other than alkali metals and ethylenediaminetetraacetic acid, or a complex of a metal other than alkali metals and diethylenetriaminepentaacetic acid.

Reich discloses that metal complexing agents include complexes of nonoxidizing metals such as aluminum, barium, calcium, magnesium, potassium, sodium, and titanium, preferably those of sodium, calcium, potassium, and magnesium. The metal complexes are neither prooxidants nor photoactivators and include sodium ethyenediaminetetraacetate, sodium salt of zinc ethyenediaminetetraacetate, calcium diethyldithiocarbamate, magnesium hydroxyethylethylenediaminetriacetic acid, sodium salt, calcium acetylacetonate, magnesium triethylenetetraaminetetraacetate, zinc diethylenetriamine pentaacetic acid, sodium salt, potassium propylenediaminetetraacetate, and nonoxidizing metal complexes of cyclic phosphate, xanthates, benzothiazoles, oximes, and benzimidazoles (col. 4, line 63 through col. 5, line 9). Polymeric composting promoting agent selected from the group of metal complexing agents which are not polymers may be added from 0.0005 to 5% by weight, preferably from 0.0005 to 3%, and more preferably from 0.0005 to 2%, which is clearly within the claimed range (col. 5, lines 10-17).

Therefore, all of the above additives are functional equivalents and can be substituted by each other. Thus, Reich recognizes the equivalency of tetrasodium ethyenediaminetetraacetate used by Catena and metal complexing agents, which include complexes of nonoxidizing metals such as aluminum, barium, calcium, magnesium, potassium, sodium, and titanium, preferably those of sodium, calcium,

potassium, and magnesium as additives for the anaerobic curable composition. In the instant case the substitution of equivalents additives requires no express motivation, as long as the prior art recognize equivalency, ***In re Fount***, 213 USPQ 532 (CCPA 1982); ***In re Siebentritt***, 152 USPQ 618 (CCPA 1967); ***Graver Tank & Mfg. Co. Inc. V. Linde Air Products Co.*** 85 USPQ 328 (USSC 1950), and a person skilled in the art would have found obvious to substitute tetrasodium ethyenediaminetetraacetate of Catena for metal complexes of nonoxidizing metals such as aluminum, barium, calcium, magnesium, potassium, sodium, and titanium, preferably those of sodium, calcium, potassium, and magnesium of Reich based on their recognized equivalency and with the reasonable expectation of success, and this to arrive the subject matter of instant claims 1 and 3.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL M. BERNSHTEYN whose telephone number is (571)272-2411. The examiner can normally be reached on M-Th 8-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael M. Bernshteyn/
Examiner, Art Unit 1796

/M. M. B./
Examiner, Art Unit 1796